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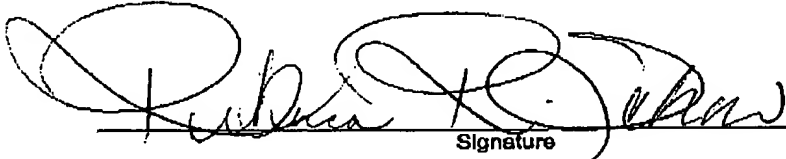
Application No.: 09/826,198

Attorney Docket No.: 40000-0011 (50P4377)

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on September 18, 2006  
Date

  
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Rebecca R. Schow  
Typed or printed name of person signing Certificate

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SEP 18 2006

40000-0011 (50P4377)

Serial No.: 09/826,198

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application: David H. Bessel

Application No.: 09/826,198

Filed: April 4, 2001

Title: "Method and Apparatus for Legacy Analog  
Video Interconnections in a Set-Top Box  
for Personal Video Recording Applications"

Examiner: LAMBRECHT, Christopher M.

Group Art Unit: 2823

Confirmation No.: 2595

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on November 24, 2005, the Notice of Panel Decision for Pre-Appeal Brief Review mailed on April 18, 2006 and the Notification of Non-Compliant Appeal Brief mailed on August 18, 2006.

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provision of 37 CFR 1.136 (a) apply.

( ) (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: CFR 1.17(a)-(d))  
for the total number of months checked below:

( ) one month	\$120.00
( ) two months	\$450.00
( ) three months	\$1020.00
( ) four months	\$1590.00

( ) The extension fee has already been filed in this application

(X) (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant had inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 18-0013/40000-0011 the sum of **\$500.00**. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 18-0013 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 18-0013 under CFR 1.16 through 1.21 inclusive, and any other section in the Title 37 of the Code of Federal Regulations that may regulate fees. A duplicate copy of this sheet is enclosed.


(X) I hereby certify that this paper is being transmitted to the Patent and Trademark Office facsimile number (571) 273-8300 on September 18, 2006.

Number of pages: 32

Signature: 

Rebecca R. Schow

Respectfully submitted,

By: 

Steven L. Nichols (Reg. No.: 40,326)  
Attorney/Agent for Applicant(s)  
Telephone No.: (801) 572-8066  
Date: September 18, 2006

40000-0011 (50P4377)

DUPLICATE

Serial No.: 09/826,198

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application: David H. Bessel

Application No.: 09/826,198

Filed: April 4, 2001

Title: "Method and Apparatus for Legacy Analog  
Video Interconnections in a Set-Top Box  
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Examiner: LAMBRECHT, Christopher M.

Group Art Unit: 2623

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Alexandria, VA 22313-1450TRANSMITTAL OF APPEAL BRIEF

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The fee for filing this Appeal Brief is (37 CFR 1.17(c)) \$500.00.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provision of 37 CFR 1.136 (a) apply.

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Attorney/Agent for Applicant(s)  
Telephone No.: (801) 572-8066  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Patent Application of

David H. Bessel

Application No. 09/826,198

Filed: April 4, 2001

For: Method and Apparatus for Legacy  
Analog Video Interconnections in a  
Set-Top Box for Personal Video  
Recording Applications

Group Art Unit: 2623

Examiner: Lambrecht, Christopher M.

APPEAL BRIEF

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The Appeal Brief filed herewith is in response to the Notification of Non-Compliant Appeal Brief mailed on August 18, 2006. This is an Appeal Brief under Rule 41.37 appealing the final decision of the Primary Examiner dated October 5, 2005. Each of the topics required by Rule 41.37 is presented herewith and is labeled appropriately.

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### **I. Real Party in Interest**

The present application has been assigned to, and the real parties in interest are, Sony Corporation of Tokyo, Japan and Sony Electronics, Inc. of New Jersey, U.S.A. (See assignment recorded at Reel/Frame 011685/0847).

### **II. Related Appeals and Interferences**

There are no appeals or interferences related to the present application of which the Appellants are aware.

### **III. Status of Claims**

Claims 1-27 are currently pending in the application and all stand finally rejected. Appellant appeals from the final rejection of claims 1-27, which claims are presented in the Appendix.

### **IV. Status of Amendments**

Following the final Office Action of October 5, 2005, Appellant filed one after-final response on January 19, 2006. However, that response did not propose any amendments to the application. Consequently, its entry into the record has no effect on the content of the claims presented in the Appendix.

### **V. Summary of Claimed Subject Matter**

As shown in Fig. 2, a television signal (108) is received by the system. This signal (108) may be an analog signal, a digital signal or a composite signal carrying both legacy analog signals as well as digital signals. The signal (108) may also be carrying multiple

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channels of television programming. In order to fully handle the signal (108), irrespective of its components, the signal (108) is provided to two tuners, an analog tuner (101) and a digital tuner (102). (Appellant's specification, paragraph 0041). The analog tuner (101) can tune an analog signal at a particular frequency. Similarly, the digital tuner (102) separates out the digital signal for a particular digital channel or program from among the many channels that may be carried by the composite signal (108). (Appellant's specification, paragraph 0042).

In the analog signal path, the analog signal output by the tuner (101) is first converted into a digital signal by a video decoder (109). The signal could then be output to a television set (106) which is capable of displaying digital audiovisual signals. However, to simplify the interconnections between system components, the now-digital signal is compressed with an MPEG2 encoder (105). (Appellant's specification, paragraph 0043). The compressed signal is then routed through a demultiplexer (103). From the demultiplexer (103), the compressed signal, which was originally received as an analog signal, can be recorded on a hard disk drive (107) or other digital data storage medium. Alternatively, the signal can be decompressed with an MPEG2 decoder (104) and output to a television set (106) for display. (Appellant's specification, paragraph 0044).

Digital signals output by the digital tuner (102) must be handled differently. A digital signal output by the tuner (102) is routed into the same demultiplexer (103) that handles signals from the analog tuner (101) that have been converted to digital and compressed. (Appellant's specification, paragraph 0045). After demultiplexing, the digital signal, which was compressed before broadcasting, can be sent to and recorded on a hard disk drive (107) or other digital recording medium. Alternatively, the signal can be decompressed by an MPEG2 decoder (104). The decompressed digital signal can then be sent to a television set (106) for display. (Appellant's specification, paragraph 0046).

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This arrangement requires only a single connection between the system and the television set (106). Additionally, the system requires only a single connection between the system and a PVR, hard disk drive (107) or other digital recording medium. Consequently, the system of the present invention is much simpler as to the interconnections required than conventional systems with equivalent functionality. (Appellant's specification, paragraph 0047).

#### **VI. Grounds of Rejection to be Reviewed on Appeal**

In the final Office Action, the following rejections were made. Thus, Appellant requests review on this appeal of the following grounds of rejection.

Claims 1, 5-8, 10, 12, 13, 15, 16, 18-20, 22-27 were rejected as anticipated under 35 U.S.C. § 102(e) by U.S. Patent Application Publication 20040261112 to Hicks et al. ("Hicks").

Claims 2-4 and 14 were rejected under 35 U.S.C. § 103(a) in view of Hicks taken alone.

Claims 9 and 11 were rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Hicks and U.S. Patent No. 6,483,986 to Krapf.

Claims 17 and 21 were rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Hicks and U.S. Patent No. 6,788,882 to Greer et al.

#### **VII. Argument**

All of the rejections made in the final Office Action rely, in whole or in part, on the Hicks reference. However, Appellant has made of record evidence which demonstrates that the invention claimed in the present application was made prior to the filing date of the Hicks



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reference. Thus, a principal issue on this appeal is whether Appellant has successfully antedated the applied prior art reference to Hicks under 37 C.F.R. § 1.131.

Appellant has filed several declarations under 37 C.F.R. § 1.131 and 1.132 to make of record those facts that show complete invention prior to the filing date Hicks. However, in the Advisory Action of February 8, 2006, the Examiner held the previous declarations to be ineffective under 37 C.F.R. § 1.131 as not evidencing a reduction to practice. Appellant respectfully disagrees.

ACTUAL REDUCTION TO PRACTICE:

“Reduction to practice” means that the invention has been taken beyond a mere conception and is rendered in sufficient detail that one of skill in the art may make and use the invention without undue experimentation. This is why an enabling disclosure under 35 U.S.C. § 112, filed as a patent application, can serve as a “constructive” reduction to practice.

An actual reduction to practice can clearly be demonstrated by producing a working prototype. However, the patent law also recognizes that some inventions can be described clearly enough on paper, as in a blue print, the one of skill in the art is then able to make and use that invention. Consequently, the construction of the invention on paper brings the invention beyond a mere conception and constitutes a reduction of the invention to practice. (See MPEP 715.07(III) citing *In re Asahi/America Inc.*, 68 F.3d 442, 37 USPQ2d 1204, 1206 (Fed. Cir. 1995) (Citing *Newkirk v. Lulejian*, 825 F.2d 1581, 3USPQ2d 1793 (Fed. Cir. 1987) and *Sachs v. Wadsworth*, 48 F.2d 928, 929, 9 USPQ 252, 253 (CCPA 1931) (These cases hold that such evidence as pictures of the invention, coupled with a technical report describing the invention are sufficient to show reduction to practice).

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In the instant case, the Appellant has made of record a document dated September 22, 2000 ("Disclosure Document"). See Declaration under 37 C.F.R. § 1.131 filed January 19, 2006. This document contains both figures illustrating the invention as well as a written technical description. It is clearly evident from this document that one of skill in the art could have, with the document, been enabled to make and use the invention without undue experimentation. Consequently, this document represents an actual reduction to practice of the invention claimed in this application prior to the filing of the Hicks reference.

Specifically, claim 1 of the instant application presently recites:

A television signal processing and recording system for handling both digital and analog video signals, said system comprising:

a video decoder in an analog signal path for converting an analog signal to a digital signal;

an encoder for compressing said digital signal output by said video decoder; and

a connection for routing said compressed digital signal into a digital signal path in which said compressed digital signal is selectively either decompressed with a decoder and output to a television set or recorded on a digital data storage device.

This subject matter is disclosed and described in the Disclosure Document of September 22, 2000 in sufficient detail so as to enable practice of the invention as here claimed. Specifically, referring to Figure 2 of the Disclosure Document an analog signal path ("Analog Video") is shown that incorporates a video decoder ("Video Decoder") for converting an analog signal ("Analog Video") into a digital signal. An encoder ("MPEG2 Encoder") is also illustrated for compressing the digital signal output by the video decoder ("Video Decoder"). Figure 2 also shows a connection for routing the compressed digital signal into a digital signal path ("Digital Video," "DeMuxx") where the compressed digital signal is selectively decompressed with a decoder ("MPEG2 Decoder") or output to a digital data storage device ("PVR Hard Disk Drive"). This subject matter is further described and

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enabled to one of skill in the art in the text accompanying and describing Figure 2 of the Disclosure Document.

As further evidence that this Disclosure Document represents an effective reduction to practice, the Disclosure Document was used almost exclusively by the undersigned to prepared the instant patent application which has been held to be an enabling disclosure of the invention. The figures of the Disclosure Document dated September 22, 2000 clearly form the basis for the figures of the instant patent application.

Consequently, Appellant had both conceived of and produced an enabling written reduction to practice of the invention at least as early as September 22, 2000. For these reasons, Appellant's declarations under 37 C.F.R. § 1.131 should be held effective and the Hicks reference removed from consideration as prior art against the instant patent application.

Constructive Reduction to Practice:

In the alternative, conception of the invention occurred prior to the filing of the Hicks reference followed by diligent activity in pursuit of the invention from the date of conception to the filing of the instant patent application, which is a constructive reduction to practice. The Advisory Action of February 8, 2006 holds that the Disclosure Document of September 22, 2000 evidences conception of the invention. The instant patent application, which undisputedly represents a *constructive* reduction to practice, was filed April 4, 2001. Between September 22, 2000 and April 4, 2001, the Appellant worked diligently toward the filing of the instant application, i.e., the constructive reduction to practice.

The Applicant was an employee of Sony Electronics, Inc. ("Sony") at the time the invention was made. Consequently, consistent with applicable employment agreements, the Applicant prepared the Disclosure Document of September 22, 2000 and submitted it to the

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intellectual property department of Sony as evidenced by the "received" stamps on the Disclosure Document of September 22, 2000 which was submitted with the Declaration of January 19, 2006.

The Disclosure Document was then reviewed in October 2000 along with the many other disclosures generated by inventors at Sony. This prompt review of the disclosure evidenced its value, and the decision was made to pursue the filing of a patent application. Accordingly, a prior art search was requested on November 9, 2000 from the firm of Mooreland and Moore, Inc. in Arlington, Virginia. The results of this search were received December 8, 2000 along with a statement that "no references were found to disclose the immediate objects of the instant invention."

Appellant and Sony then conducted a review the results of the search report. Following this review, the decision was made to proceed with the present patent application. On January 24, 2001, the Disclosure Document of September 22, 2000 was provided by Sony to the undersigned with instructions to prepare the instant patent application. The undersigned has declared on the record under 37 C.F.R. § 1.132 that the application was then diligently prepared consistent with the demands of other client projects. The instant application was then filed a little over two months later on April 4, 2001.

These facts, made of record by the undersigned under 37 C.F.R. § 1.132, illustrate conception of the invention prior to the filing of the Hicks reference and diligent activity in pursuit of the invention from the date of conception to the filing of the instant patent application, which is a constructive reduction to practice. For these alternative reasons, the Hicks reference should be removed from consideration as prior art against the present application.

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In view of the foregoing, it is submitted that the final rejection of the pending claims is improper and should not be sustained. Therefore, a reversal of the Final Rejection of October 5, 2005 is respectfully requested.

Respectfully submitted,

DATE: September 18, 2006

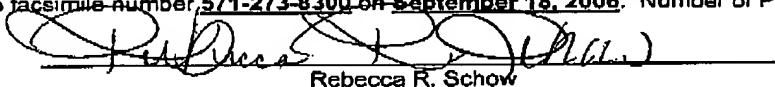


Steven L. Nichols  
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**CERTIFICATE OF TRANSMISSION**

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Rebecca R. Schow

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09/826,198

**VIII. CLAIMS APPENDIX**

1. (previously presented) A television signal processing and recording system for handling both digital and analog video signals, said system comprising:

a video decoder in an analog signal path for converting an analog signal to a digital signal;

an encoder for compressing said digital signal output by said video decoder; and

a connection for routing said compressed digital signal into a digital signal path in which said compressed digital signal is selectively either decompressed with a decoder and output to a television set or recorded on a digital data storage device.

2. (previously presented) The system of claim 1, further comprising a demultiplexer in said digital signal path for receiving and demultiplexing said compressed digital signal when said compressed digital signal is routed to said digital signal path or a digital signal received in digital format and not sent through said video decoder.

3. (original) The system of claim 2, further comprising a digital tuner for outputting a tuned digital signal into said digital signal path.

4. (original) The system of claim 3, wherein said digital tuner outputs said digital signal to said multiplexer.

5. (original) The system of claim 1, wherein said digital data storage device is a hard disk drive.

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6. (original) The system of claim 1, further comprising an analog tuner for outputting said analog signal to said video decoder.

7. (original) The system of claim 1, wherein said encoder is an MPEG2 encoder.

8. (original) The system of claim 1, wherein said decoder is an MPEG2 decoder.

9. (previously presented) The system of claim 1, wherein said video decoder, encoder, connection and decoder are incorporated in a set-top box.

10. (original) The system of claim 1, wherein said digital data storage device is incorporated in a personal video recorder.

11. (previously presented) The system of claim 1, wherein said video decoder, encoder, connection, decoder and digital data storage device are incorporated in a single set-top unit.

12. (original) A method of processing and recording a television signal that handles both digital and analog video signals, said method comprising:  
converting an analog signal to a digital signal; and

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compressing and decompressing said digital signal before outputting said digital signal to a television set.

13. (original) The method of claim 12, further comprising, after converting said analog signal to said digital signal and after compressing said digital signal, routing said compressed digital signal from an analog signal path to a digital signal path in which said compressed digital signal is decompressed and output to a television set.

14. (original) The method of claim 13, further comprising demultiplexing said compressed digital signal when said compressed digital signal is routed to said digital signal path.

15. (original) The method of claim 13, further comprising tuning a digital signal with a digital tuner and outputting said tuned digital signal into said digital signal path.

16. (original) The method of claim 12, further comprising, after converting said analog signal to said digital signal and after compressing said digital signal, recording said compressed digital signal on a digital data recording device.

17. (original) The method of claim 16, wherein said converting and compressing said digital signal are performed with a set-top box and said recording is performed by a personal video recorder.



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18. (original) A system for processing and recording a television signal that handles both digital and analog video signals, said system comprising:

means for converting an analog signal to a digital signal;

means for compressing and decompressing said digital signal.

19. (original) The system of claim 18, further comprising means for outputting said digital signal to a television set.

20. (original) The system of claim 18, further comprising means for recording said digital signal when said digital signal is compressed.

21. (original) The method of claim 20, wherein said means for converting and for compressing and decompressing said digital signal are housed in a set-top box and said means for recording are housed in a personal video recorder.

22. (previously presented) A television signal processing and recording system for handling both digital and analog video signals, said system comprising:

a video decoder in an analog signal path for converting an analog signal to a digital signal;

an encoder for compressing said digital signal output by said video decoder; and

a decoder for decompressing said digital signal compressed by said encoder.

23. (original) The system of claim 22, further comprising a connection for outputting said digital signal to a television set when said digital signal is decompressed.

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24. (original) The system of claim 22, further comprising a digital data storage device for recording said digital signal when compressed by said encoder.

25. (original) The system of claim 22, further comprising a digital tuner for outputting a tuned digital signal to said decoder.

26. (original) The system of claim 22, further comprising an analog tuner for outputting a tuned analog signal to said video decoder.

27. (original) The system of 22, wherein said digital data storage device is a hard disk drive.

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09/826,198

**IX. Evidence Appendix**

The following evidence has been entered into the record as indicated below. Copies of the evidence listed below are included in this appendix.

(1) Declaration under 37 C.F.R. § 1.132 by Steven L. Nichols (Attorney for Appellant), filed with Appellant's response of 15 Jun 2005, acknowledged and considered by Examiner in the Office Action of 5 October 2005.

(2) Declaration under 37 C.F.R. § 1.131 by David H. Bessel (Inventor), filed with Appellant's supplemental response of 20 July 2005, acknowledged and considered by Examiner in the Office Action of 5 October 2005.

(3) Second Declaration under 37 C.F.R. § 1.131 by David H. Bessel (Inventor) included appended disclosure document dated 20 September 2000, filed with Appellant's response of 19 January 2006, acknowledged and considered by Examiner in the Advisory Action of 8 February 2006.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Patent Application of

David H. Bessel

Application No. 09/826,198

Filed: April 4, 2001

For: Method and Apparatus for Legacy  
Analog Video Interconnections in a  
Set-Top Box for Personal Video  
Recording Applications

Group Art Unit: 2611

Examiner: Christopher M.  
Lambrecht

DECLARATION UNDER 37 C.F.R. § 1.132

The undersigned, being Applicant's attorney of record, hereby declares the following based on information and belief.

1. The Applicant and inventor of the above-identified patent application, David H. Bessel ("Bessel") invented the subject matter now claimed in the above-identified patent application prior to December 28, 2000, the filing date of U.S. 2004/0261112 to Hicks, III et al. ("Hicks").

2. Bessel conceived of the invention as presently claimed and described that invention in such complete terms as to enable the preparation of the above-identified patent application at least as early as September 22, 2000.

3. Bessel created written documentation of the invention as presently claimed in the above-identified patent application at least as early as September 22, 2000. A copy of such documentation dated September 22, 2000 is attached to this declaration.

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4. The attached document dated September 22, 2000 was submitted to the undersigned who, based on that document, prepared and filed the above-identified patent application in compliance with 35 U.S.C. §§ 101 and 112.

5. All statements made herein of my/own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

DATE: 10 June 2005

  
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Steven L. Nichols, Esq.  
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Recording Applications

Group Art Unit: 2611

Examiner: Christopher M.  
LambrechtDECLARATION UNDER 37 C.F.R. § 1.131

The undersigned, being sole inventor and Applicant of the above-identified patent application, hereby declares the following based on information and belief.

1. I, David H. Bessel, invented the subject matter now claimed in the above-identified patent application prior to December 28, 2000, the filing date of U.S. 2004/0261112 to Hicks, III et al. ("Hicks").

2. I conceived of the invention as presently claimed and described that invention in writing in such complete terms as to enable one of skill in the art to practice the invention as claimed without undue experimentation at least as early as September 22, 2000. This writing also enabled the preparation of the above-identified patent application.

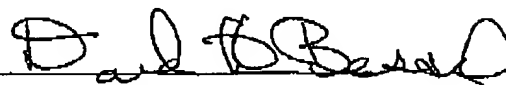
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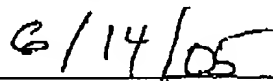
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3. All statements made herein of my/own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.



David H. Bessel



Date

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Patent Application of

David H. Bessel

Application No. 09/826,198

Filed: April 4, 2001

For: Method and Apparatus for Legacy  
Analog Video Interconnections in a  
Set-Top Box for Personal Video  
Recording Applications

Group Art Unit: 2611

Examiner: Christopher M.  
Lambrecht

DECLARATION UNDER 37 C.F.R. § 1.131

The undersigned, being sole inventor and Applicant of the above-identified patent application, hereby declares the following based on information and belief.

1. I, David H. Bessel, invented the subject matter now claimed in the above-identified patent application prior to December 28, 2000, the filing date of U.S. 2004/0261112 to Hicks, III et al. ("Hicks").

2. All acts related to the invention, including conception and reduction to practice of the invention, occurred in the United States

3. I conceived of the idea for the invention as presently claimed prior to September 22, 2000. I then worked on the idea diligently until it was reduced to practice.



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4. The reduction to practice occurred at least as early as September 22, 2000. On that date, I submitted a written document ("disclosure document") fully describing the invention as claimed to the legal department of Sony Electronics, Inc. where I was employed at that time. A copy of this disclosure document is attached and is incorporated herein by reference. This disclosure document represents a reduction to practice because it describes the invention in such complete terms that one of skill in the art would have been enabled to practice the invention based on the description in the disclosure document.

5. Specifically, claim 1 of the instant application presently recites:

A television signal processing and recording system for handling both digital and analog video signals, said system comprising:  
a video decoder in an analog signal path for converting an analog signal to a digital signal;  
an encoder for compressing said digital signal output by said video decoder;  
and  
a connection for routing said compressed digital signal into a digital signal path in which said compressed digital signal is selectively either decompressed with a decoder and output to a television set or recorded on a digital data storage device.

This subject matter is disclosed and described in the disclosure document of September 22, 2000 in sufficient detail so as to enable practice of the invention as here claimed. Specifically, referring to Figure 2 of the disclosure document an analog signal path ("Analog Video") is shown that incorporates a video decoder ("Video Decoder") for converting an analog signal ("Analog Video") into a digital signal. An encoder ("MPEG2 Encoder") is also illustrated for compressing the digital signal output by the video decoder ("Video Decoder"). Figure 2 also shows a connection for routing the compressed digital signal into a digital signal path ("Digital Video," "DeMuxx") where the compressed digital signal is selectively decompressed with a decoder ("MPEG2 Decoder") or output to a digital data storage device ("PVR Hard Disk Drive"). This subject matter is further described and enabled to one of skill in the art in the text accompanying and describing Figure 2 of the disclosure document.

6. Consequently, the disclosure document represents an enabling disclosure and, therefore, a reduction to practice of the invention as presently recited in, for example, claim 1.

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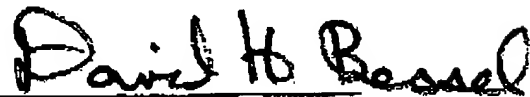
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7. As further evidence that this disclosure document represents an effective reduction to practice, the disclosure document was used by Steven L. Nichols, a registered patent attorney, to prepare the instant patent application, the sufficiency of which has never been questioned. The figures of the disclosure document dated September 22, 2000 also clearly form the basis for the figures of the instant patent application.

8. Consequently, I did conceive and reduce to practice the invention as currently claimed in the instant patent application at least as early as September 22, 2000, prior to the effective filing date of the Hicks reference.

9. All statements made herein of my own knowledge are true, all statements made herein on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and may jeopardize the validity of the application or any patent issuing thereon.



David H. Bessel



Date

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Note: Detailed instructions for completing this form can be found in Appendix V of Sony's Patent Guide for Engineers and Inventors.

## I. IDENTIFICATION

IPD Case #: 50P4377  
(IPD use only)

1a. Short Descriptive Title of the Invention:  
Method of legacy video interconnection in Set Top Box for Personal Video Recording Applications

1b. Short Summary of the Invention:

This discloses a method of connecting legacy video to a  
cable Set Top Box (STB) to facilitate Personal Video Recording (PVR) applications..

2. Name of Responsible Patent Coordinator (if any): Deborah Hutchinson

Business Address: 16450 West Bernardo Dr. MZ 7205 / San Diego, CA 92127

Business Phone/Fax: 858-942-4170 / 858-921-9142

Business Email Address: Debbie.Hutchinson@am.sony.com

3. Identify all persons who contributed to the present invention including persons from other Sony Divisions, Sony Japan and Outside Companies. Final determination of inventorship is a legal question which will be resolved at a later time.

(1)

Full Legal Name: David H. Beasel  
Home Address: P.O. Box 669, Poway, CA 92074  
Citizenship: US  
Business Address (include mail drop): 16450 West Bernardo Dr. MZ 7200 / San Diego, CA 92127  
Business Phone/Fax: 858-942-2646 / 858-921-9178  
Business Email Address: Dave.Beasel@am.sony.com dave-beasel@cs.com  
Division / Company / Location: ATC / DCA / San Diego  
☒ Sony Employee ☐ Intern ☐ Contractor/Consultant ☐ Temp. ☐ Other:

Manager's Name: David A. Desch  
Business Address: 16450 West Bernardo Dr., San Diego, CA 92127, US  
Business Phone/Fax: 858 942-2784  
Business Email Address: Dave.Desch@am.sony.com

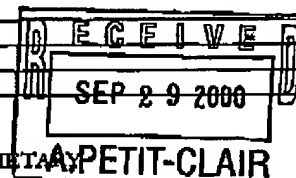
(2)

Full Legal Name: \_\_\_\_\_  
Home Address: \_\_\_\_\_  
Citizenship: \_\_\_\_\_  
Business Address (include mail drop): \_\_\_\_\_  
Business Phone/Fax: \_\_\_\_\_  
Business Email Address: \_\_\_\_\_  
Division / Company / Location: \_\_\_\_\_  
☐ Sony Employee ☐ Intern ☐ Contractor/Consultant ☐ Temp. ☐ Other:

Manager's Name: \_\_\_\_\_  
Business Address: \_\_\_\_\_  
Business Phone/Fax: \_\_\_\_\_  
Business Email Address: \_\_\_\_\_

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(3)

Full Legal Name: \_\_\_\_\_  
 Home Address: \_\_\_\_\_  
 Citizenship: \_\_\_\_\_ (If Japanese, please provide name in Kanji)  
 Business Address (include mail drop): \_\_\_\_\_  
 Business Phone/Fax: \_\_\_\_\_ / \_\_\_\_\_  
 Business Email Address: \_\_\_\_\_  
 Division / Company / Location: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
☐ Sony Employee    ☐ Intern    ☐ Contractor/Consultant    ☐ Temp.    ☐ Other : \_\_\_\_\_  
 \_\_\_\_\_  
 Manager's Name: \_\_\_\_\_  
 Business Address: \_\_\_\_\_  
 Business Phone/Fax: \_\_\_\_\_ / \_\_\_\_\_  
 Business Email Address: \_\_\_\_\_

(4)

Full Legal Name: \_\_\_\_\_  
 Home Address: \_\_\_\_\_  
 Citizenship: \_\_\_\_\_ (If Japanese, please provide name in Kanji)  
 Business Address (include mail drop): \_\_\_\_\_  
 Business Phone/Fax: \_\_\_\_\_ / \_\_\_\_\_  
 Business Email Address: \_\_\_\_\_  
 Division / Company / Location: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
☐ Sony Employee    ☐ Intern    ☐ Contractor/Consultant    ☐ Temp.    ☐ Other : \_\_\_\_\_  
 \_\_\_\_\_  
 Manager's Name: \_\_\_\_\_  
 Business Address: \_\_\_\_\_  
 Business Phone/Fax: \_\_\_\_\_ / \_\_\_\_\_  
 Business Email Address: \_\_\_\_\_

(Use Additional Inventors sheet if necessary)

**II. BACKGROUND INFORMATION**

1. Do you believe this invention was developed while working under or in the performance of experimental, developmental or research work called for by a Government Contract or upon the understanding that a Government Contract would be awarded?  
☒ NO    ☐ YES
2. Has your invention been disclosed to anyone outside of Sony in a speech, exhibit, presentation, product, product manual, report, lecture, trade show, technical article, publication or otherwise?  
☒ NO    ☐ YES
3. Is this invention related to any previous Sony Invention Disclosures of which you are aware (made by you or someone else)?  
☒ NO    ☐ YES
4. If you responded "YES" to any of questions 1-3, please explain below:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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5. Name of product(s) or project(s) for which this invention was developed:

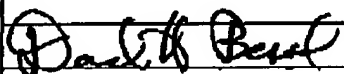
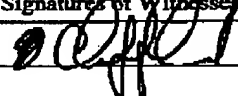
Millennium Cablevision Set Top Box (STB)

6. When do you expect a product incorporating this invention to be sold, offered for sale or shown to someone outside of Sony? (If a product or prototype has already been sold, offered for sale or shown, please identify the earliest date this happened.):  
Jan 2002
7. Has a working model of the invention been built and tested (or appropriate software been written)?  
☒ NO ☐ YES: If yes, who has witnessed a demonstration, and when?
8. List below any patents, publications, articles, texts, products, etc. which describe technology similar to your invention including reference material which may be useful in understanding the background technology of your invention: (Include a copy of each item to IPD. Please include copies of all bibliographical information.)

### III. DESCRIPTION OF THE INVENTION

Provide a concise technical description of your invention in the format outlined below on the following pages.

- 1: Explain the problems, issues or needs which led to the invention, and explain how others have addressed these problems, issues or needs.
- 2: Describe your invention in terms of how it solves the problems described in paragraph 1. Specifically identify the new or novel features of your invention. Describe the construction and operation of the invention including drawings (flow charts, schematics, block diagrams, mechanical drawings, photographs, etc.) You may attach documentation in the form of letters, memos, engineering notebook pages, etc. if available, or you may use as many invention disclosure data sheets as necessary. Be sure each page is signed, dated and witnessed.
- 3: If there is more than one way to implement your invention, describe the "Best Mode" or your personal preference as to how to *best* implement, build, produce, or use your invention (e.g. preferred parts, materials, techniques, etc. which you feel are best in practicing your invention). Each submitter's opinion is important here, even if there is disagreement. Please list anything you think will make the invention better in any way.
- 4: Briefly describe any alternate uses, variations or modifications of your invention, if any, which you contemplate.

Signature of Submitter(s)		Read and understood by: Signatures of Witnesses (at least two witnesses preferred)			
	Date	7 10 00		Date	9/26/02
	Date			Date	
	Date			Date	
	Date			Date	

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### Invention Disclosure Data Sheet

#### Paragraph 1. Explanation of Problem

Contemporary cable Set Top Boxes (STB) are required to tune both digital and legacy analog channels. Digital channels are received in a compressed format. Analog channels are received as standard NTSC (in the US,) format. For Personal Video Recording (PVR) applications, the legacy analog video material must be converted to digital form and must be compressed prior to being recorded on a disk drive storage unit. This conversion process adds complexity to the interconnection paths within the STB. The purpose of this patent disclosure is a method for interconnection that creates less complex system organizations..

#### Paragraph 2. Explanation of Proposed Solution

Figure 1 illustrates a conventional method of connecting legacy, analog video from a tuner to the video presentation section and PVR hard disk drive in a STB. Analog video is routed from the tuner into a video decoder which converts it into a digital format. This digitized legacy video is then routed into the Presentation portion of the STB for active display and routed to an MPEG2 video encoder where it is compressed before being sent to the hard disk recorder. Note, that there is a separate path required for routing the original digital source video to the hard disk recorder. Both the Video Presentation unit and PCR disk must accept material from dual sources.

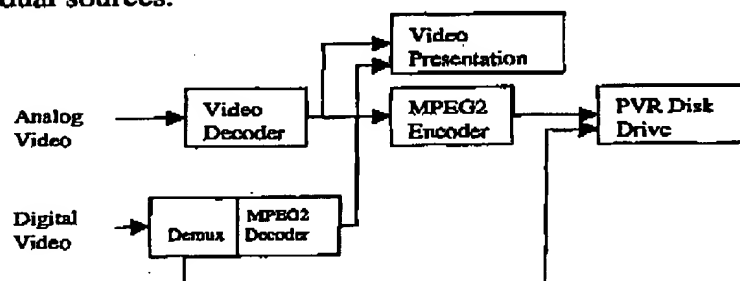


Figure 1

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Figure 2 depicts the new, simplified organization. The key to this organization is that the legacy analog video is always compressed, regardless of whether it is being recorded, and then decompressed for presentation. Thus, both the legacy analog video and the digital video streams are treated exactly the same for presentation and for PVR recording activities, traveling over the same data path and a single interface to the PVR recorder. Other advantages may also exist. The dual port required in figure 1 into the PVR hard disk drive has been eliminated.

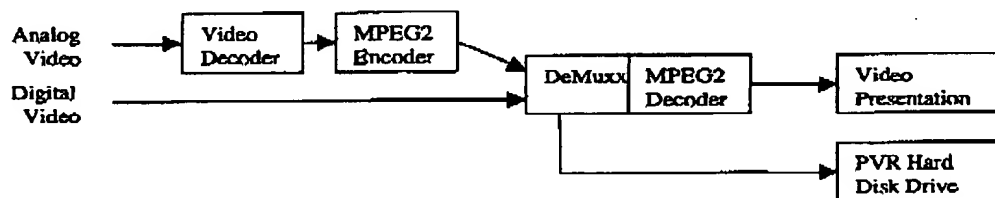


Figure 2

### Paragraph 3. Preferred Implementation

There is no preferred method of implementation this organization. Implementations are dependent on other aspects of the system design and the specific components utilized.

Signature of Submitter(s)			Read and understood by: Signatures of Witnesses (at least two witnesses preferred)		
	Date	9/20/00		Date	9/20/00
	Date			Date	
	Date			Date	
	Date			Date	

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**X. Related Proceedings Appendix**

None

**XI. Certificate of Service**

None